

**WEST**

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L1: Entry 1 of 4

File: JPAB

Apr 11, 1991

PUB-NO: JP403086943A

DOCUMENT-IDENTIFIER: JP 03086943 A

TITLE: PROTECTIVE FILM FOR OPTICAL RECORDING MEDIUM AND OPTICAL RECORDING MEDIUM  
USING THIS FILM

PUBN-DATE: April 11, 1991

## INVENTOR-INFORMATION:

NAME

COUNTRY

DOI, ICHIRO

MIYAZAKI, SADAJI

NAKAO, MASABUMI

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

ASAHI CHEM IND CO LTD

APPL-NO: JP02061236

APPL-DATE: March 14, 1990

US-CL-CURRENT: 369/272

INT-CL (IPC): G11B 7/24; G11B 11/10

## ABSTRACT:

PURPOSE: To provide the recording medium which has high mechanical strength and with which peeling and cracking hardly arise by consisting the protective film of the oxynitride of silicon provided on at least one surface of the recording layer of the optical recording medium, specifying the atom number ratios thereof and specifying the density of the grain structure enclosed by the grain boundaries of the microscopical film structure thereof.

CONSTITUTION: An interference layer 2, the recording layer 3 and the protective layer 4 are successively provided on a polycarbonate substrate 2 with guide grooves. The oxynitride of the silicon having the compsn. of the regions on the inner side from the triangle connecting the three points; A(Si60N0040), B(Si33.3 N0066.7) and C(Si39.1N34.8O26.1) successively by segments is used for the protective film 4. Further, the density of the grain structure enclosed by the grain boundaries in the microscopical film structure is specified to  $\leq 10$  pieces per  $1\mu\text{m}^2$ . The cracking is substantially prevented in this way and the mechanical strength is enhanced.

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L1: Entry 4 of 4

File: DWPI

Apr 11, 1991

DERWENT-ACC-NO: 1991-152314  
DERWENT-WEEK: 199121  
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TITLE: Protective film for optical recording medium - comprises specific nitride  
contg. specific amts. of silicon, nitrogen and oxygen covered by UV hardenable resin

## PATENT-ASSIGNEE:

ASSIGNEE	CODE
ASAHI CHEM IND CO LTD	ASAH

PRIORITY-DATA: 1989JP-0145493 (June 9, 1989), 1990JP-0061236 (March 14, 1990)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>JP 03086943 A</u>	April 11, 1991		000	

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 03086943A	March 14, 1990	1990JP-0061236	

INT-CL (IPC): G11B 7/24; G11B 11/10

ABSTRACTED-PUB-NO: JP 03086943A  
BASIC-ABSTRACT:

A protective film of silicon acid nitride is provided on at least one face of a recording layer. The atomic number ratio is located in the triangular region surrounded by A(Si60N0040), B(Si33.3N0066.7) and C(Si39.1N34.8O26.1) in the triangular solid having summits of (Si100- N000), (Si0N100O0), and (Si0N00100). In the microscopic film structure, grain structure density surrounded with grain boundary is up to 10 pieces per microm<sup>2</sup>. The protective film for optical recording medium comprises the above protective film, and an ultraviolet ray hardening resin layer provided as the upper most layer. The optical recording medium has the protective film on at least one face of the recording layer. The resin layer has a hardening coefft. of contraction of 5-10%.

USE/ADVANTAGE - The optical recording medium is used for compact disks, CD-ROMs, document or image files, or floppy disks. The optical recording medium has good barrier properties to water or oxygen, good chemical stability, and mechanical strength under severe conditions, and less separation or cracks. The protective film (on at least one face of the recording layer) provides the medium with good environmental resistance at high temps. or humidities. The use of the ultraviolet ray hardening layer provides the medium with better environment resistance.

CHOSEN-DRAWING: Dwg.4/7

TITLE-TERMS: PROTECT FILM OPTICAL RECORD MEDIUM COMPRISE SPECIFIC NITRIDE CONTAIN  
SPECIFIC AMOUNT SILICON NITROGEN OXYGEN COVER ULTRAVIOLET HARDEN RESIN

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L1: Entry 1 of 2

File: JPAB

Dec 8, 2000

PUB-NO: JP02000339764A  
DOCUMENT-IDENTIFIER: JP 2000339764 A  
TITLE: OPTICAL RECORDING MEDIUM

PUBN-DATE: December 8, 2000

## INVENTOR-INFORMATION:

NAME

COUNTRY

OKUMA, SHIGEMASA

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

KYOCERA CORP

APPL-NO: JP11152995

APPL-DATE: May 31, 1999

INT-CL (IPC): G11 B 7/24; C22 C 21/00

## ABSTRACT:

PROBLEM TO BE SOLVED: To improve chemical stability such as oxidation resistance, light reflecting characteristics and thermal characteristics of an optical recording medium by successively laminating a recording layer phase-changed to an amorphous substance or a crystalline substance according to the output of irradiating light and a reflecting layer consisting essentially of Al and Co and containing specified quantities of them on a transparent substrate.

SOLUTION: A reflecting layer 5 consists essentially of Al and Co and contains 85.0-99.5 atomic % Al and 0.5-15.0 atomic % Co. A recording layer 3 consists of chalcogenides, e.g. GeTe, GeSbTe, InSeTlCo, InSbTe, etc. In particular, GeTe and GeSbTe can be rewritten a large number of times, can be crystallized in a short time at the time of crystallization and have high stability in an amorphous state. A first and second transparent dielectric layer 2 and 4 function as the protective layers of the recording layer 3 and as the material these layer, ZnS-SiO<sub>2</sub>, SiN based material, SiON based material, SiO<sub>2</sub>, SiO, TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and the like are used, among which ZnS-SiO<sub>2</sub> is preferable.

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L1: Entry 2 of 2

File: DWPI

Dec 8, 2000

DERWENT-ACC-NO: 2001-185221

DERWENT-WEEK: 200119

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TITLE: Rewritable optical recording medium, has crystalline-non-crystalline phase changeable recording layer on substrate, which changes phase based on light irradiated on substrate

## PATENT-ASSIGNEE:

ASSIGNEE

KYOCERA CORP

CODE

KYOC

PRIORITY-DATA: 1999JP-0152995 (May 31, 1999)

## PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

JP 2000339764 A

December 8, 2000

005

G11B007/24

## APPLICATION-DATA:

PUB-NO

APPL-DATE

APPL-NO

DESCRIPTOR

JP2000339764A

May 31, 1999

1999JP-0152995

INT-CL (IPC): C22 C 21/00; G11 B 7/24

ABSTRACTED-PUB-NO: JP2000339764A

## BASIC-ABSTRACT:

NOVELTY - A crystalline-non-crystalline phase changeable recording layer (3) is formed on a transparent substrate (1) which changes its phase depending on light irradiated. A reflex layer (5) containing aluminum of 0.5-15 atom percentage and cobalt of 85-99.5 atom percentage as principal component, is formed on the recording layer.

USE - For a rewritable optical recording medium.

ADVANTAGE - Chemically stabilized recording and reflex layers, excellent optical reflective property and heat characteristics such as anti oxidation property and carrier to noise ratio effect at the time of reproduction are obtained and sharply improves the bit error rate (BER), jitter property and repeated recording and reproducing durability.

DESCRIPTION OF DRAWING(S) - The figure shows the fragmentary sectional view of optical recording medium.

Transparent substrate 1

Recording layer 3

Reflex layer 5

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS: REWRITING OPTICAL RECORD MEDIUM CRYSTAL NON CRYSTAL PHASE CHANGE RECORD  
LAYER SUBSTRATE CHANGE PHASE BASED LIGHT IRRADIATE SUBSTRATE

DERWENT-CLASS: G06 L03 M26 T03 W04

CPI-CODES: G06-C06; G06-D07; L03-G04B; M26-B08; M26-B08A;

EPI-CODES: T03-B01; W04-C01;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2001-055944

Non-CPI Secondary Accession Numbers: N2001-132260